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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicant:	ABBASI ET AL.	)	
		)	Examiner C. Craver
Appl. No.	10/074,160	)	
		)	Art Unit 2682
Confirm. No.	5037	)	
		)	Atty. Docket No. CS20120RL
Filed:	12 February 2002	)	
Title:	"Mobile Wireless Communication Devices With Internal Antennas And Replaceable Housings"		

**APPEAL BRIEF UNDER 37 C.F.R. § 1.192(c)**

Assistant Commissioner for Patents  
Alexandria, Virginia 22313

Sir:

**Real Party In Interest**

The real party in interest is Motorola Inc., by virtue of an assignment duly executed by the named inventor(s) and recorded in the Patent Office on 12 February 2002, REEL/FRAME: 012596/0274.

**Related Appeals and Interferences**

There are no related appeals or interferences.

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### Status of Claims

Claims 1-20 are stand rejected in the final Office Action mailed on 9 April 2004.

Appealed claims are Claims 1-20 are appended.

### Status of Amendments

No amendments have been filed subsequent to the mailing of the final Office Action on 9 April 2004.

### Disclosure Summary

The present disclosure is drawn to systems for wireless communication handsets having interchangeable housing portions and to housings and sub-combinations thereof. In one embodiment, the system comprises a wireless communication handset body having electrical communications circuitry coupled to an antenna, first and second housing portions having different shapes, wherein the first and second housing portions are interchangeably mounted on a common portion of the handset body, and wherein first and second housing portions load the antenna with the same load when mounted on the common portion of the handset body. In another embodiment, a communication handset comprises a wireless handset body with electrical communications circuitry coupled to an antenna, a housing portion mounted on the handset body adjacent at least a portion of the antenna, an antenna loading member disposed between the housing portion

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and the antenna, wherein the antenna loading member comprises an electrically conductive material spaced apart from the antenna by a dielectric. These and other aspects of the invention are discussed more fully on page page 4, line 3 – page 15, line 13 of the instant specification.

### Issues for Consideration on Appeal

1. Whether Claims 19 and 20 are anticipated under 35 USC 102(e) by U.S. Patent No. 6,566,812 (Pennanen). Office Action, 9 April 2004.
2. Whether Claims 1-18 are patentable over U.S. Patent No. 6,566,812 (Pennanen) under 35 USC 103(a). Office Action, 9 April 2004.

### Grouping of Claims

Claims 1-20 do not stand or fall together regarding the rejections thereof. The independent bases for allowability of the claims are discussed more fully below.

### Discussion Of Issues

#### Allowability of Independent Claim 19

Contrary to the Examiner's assertion, Pennanen fails to disclose of suggest a wireless communication handset, comprising:

...a wireless communication handset body having electrical communications circuitry coupled to an antenna;

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a housing portion mounted on the handset body adjacent at  
least a portion of the antenna;  
an antenna loading member disposed between the housing  
portion and the antenna,  
the antenna loading member comprises an electrically  
conductive material spaced apart from the antenna by a dielectric.

Contrary to the Examiner's assertion, the auxiliary antenna (400) of Pennanen is not a housing portion. The auxiliary antenna (400) of Pennanen is mounted externally on the radio device (301) by attaching members (407). Pennanen, FIG. 6. The auxiliary antenna (400) of Pennanen includes a planar antenna element (401) separated from a conductive ground plane (403) by a dielectric (402), wherein a second ground plane portion (406) is also coupled to the ground plane (403). See Pennanen, col. 4, line 44 - col. 5, line 18 and FIGs. 4 & 5. The element (401) of Pennanen is a planar antenna, not a loading member as asserted by the Examiner. Assuming, arguendo, that the planar antenna element (401) is an antenna loading member (as asserted by the Examiner), the planar antenna element (401) of Pennanen is not "... disposed between the housing portion and the antenna...." Claim 19 and the claims that depend therefrom are thus patentably distinguished over Pennanen.

#### Allowability of Claim 20

Regarding Claim 20, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 19, an internal antenna wherein "... the antenna loading member comprises a conductive member separated from the internal antenna by a dielectric material." In Pennanen, the auxiliary antenna (400) is mounted externally on a radio telecommunications device

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(301). The device (301) includes a separate internal antenna (306) in addition to the auxiliary antenna relied upon by the Examiner. See FIGs. 3 & 6 of Pennanen. Claim 20 is thus further patentably distinguished over Pennanen.

Allowability of Independent Claim 1

Regarding Claim 1, contrary to the Examiner's assertion, Pennanen fails to disclose or suggest a:

... system for a wireless communication handset with interchangeable housing portions, comprising:

a wireless communication handset body having electrical communications circuitry coupled to an antenna;

a first housing portion having a first shape and a second housing portion having a second shape, the second shape of the second housing portion different than the first shape of the first housing portion;

the first and second housing portions interchangeably mounted on a common portion of the handset body,

the first housing portion loading the antenna with a first load when the first housing portion is mounted on the common portion of the handset body,

the second housing portion loading the antenna with the same load as the first housing portion when the second housing portion is mounted on the common portion of the handset body.

Pennanen does not disclose first and second housing portions having first and second corresponding shapes. The auxiliary antennas of Pennanen are not housing portions. The Examiner concedes that Pennanen "... fails to disclose that the loads/frequencies are the same or that the housing portions are interchangeable. The Examiner's assertion that it would have been obvious "... that the antenna loading would have been the same, and to

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utilize the two embodied antenna devices interchangeably so as to provide two different antenna coverage characteristics ... " is entirely unsupported by the prior art. Mere plausibility (as suggested by the Examiner) is insufficient motivation to modify or combine. MPEP 2143.01, "Suggestion or Motivation to Modify the References".

Assuming, arguendo, that the auxiliary antennas of Pennanen are housing portions (as suggested by the Examiner), there is no disclosure or suggestion in Pennanen that the different auxiliary antennas impart the same load on the internal antenna. Moreover, contrary to the Examiner's assertion, the orientation of the auxiliary antenna will very likely affect the load imparted to the internal antenna. Claim 1 and the claims that depend therefrom are thus patentably distinguished over the Pennanen.

#### Allowability of Claim 10

Regarding Independent Claim 10, Contrary to the Examiner's assertion, Pennanen does not disclose or suggest a

... wireless communication handset system having interchangeable housing portions, comprising:

a wireless communication handset body having electrical communications circuitry coupled to an antenna;

a first housing portion of a first material having a first antenna loading characteristic and a second housing portion of a second material having a second antenna loading characteristic different than the first antenna loading characteristic of the first housing portion,

the first and second housing portions interchangeably mounted on a common portion of the handset body adjacent the antenna;

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an antenna loading feature disposed between one of the first and second housing portions and the antenna,

the antenna having a first resonant frequency when the first housing portion is mounted on the common portion of the handset body,

the antenna having a second resonant frequency the same as the first resonant frequency when the second housing portion is mounted on the common portion of the handset body.

As noted above, the auxiliary external antennas in FIG. 4 and 5 of Pennanen are not housings. Assuming, arguendo, that the auxiliary antennas of Pennanen are housings (as suggested by the Examiner), there is no indication that they are formed of materials having different loading characteristics. Pennanen also fails to disclose an "antenna loading feature". Moreover, if the auxiliary antennas of Pennanen correspond to the housing portions (as suggested by the Examiner), the auxiliary antennas cannot also correspond to the antenna loading feature. Pennanen also fails to disclose an antenna location feature "... disposed between one of the first and second housing portions and the antenna." Claim 10 and the claims that depend therefrom are thus patentably distinguished over the Pennanen.

#### Allowability of Claims 2 & 14

Regarding Claim 2, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 1, wherein

... the antenna is an internal antenna,  
a first internal portion of the first housing portion adjacent the internal antenna when the first housing portion is mounted on the handset body,

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a second internal portion of the second housing portion adjacent the internal antenna when the second housing portion is mounted on the handset body,

a first external portion of the first housing portion opposite the first internal portion thereof different than a second external portion of the second housing opposite the second internal portion thereof.

Contrary to the Examiner's assertion, the body portions (406, 506) of the auxiliary antennas are in fact conductive ground planes, not internal housing portions. Pennanen, col. 5, line 7-10 & lines 29-36. Claim 2 is thus further patentably distinguished over Pennanen.

#### Allowability of Claim 14

Regarding Claim 14, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 10, that

... the antenna is an internal antenna, a first internal portion of the first housing portion adjacent the internal antenna when the first housing portion is mounted on the handset body, a second internal portion of the second housing portion adjacent the internal antenna when the second housing portion is mounted on the handset body.

Contrary to the Examiner's assertion, the body portions (406, 506) of the auxiliary antennas are in fact conductive ground planes, not internal housing portions. Pennanen, col. 5, line 7-10 & lines 29-36. Claim 14 is thus further patentably distinguished over Pennanen.

#### Allowability of Claim 3



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Regarding Claim 3, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 1, that the "... internal antenna is a planar inverted F antenna." Claim 3 is thus patentably distinguished over Pennanen.

#### Allowability of Claim 4

Regarding Claim 4, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 1 and any intervening claims, that the

... first housing portion has a first antenna loading characteristic, the second housing portion has a second antenna loading characteristic made substantially the same as the first antenna loading characteristic of the first housing portion by an antenna loading feature disposed between second housing portion and the internal antenna when the second housing portion is mounted on the handset body.

Pennanen makes not disclosure or suggestion of an antenna loading feature that compensates for a difference in the loading features of the auxiliary antennas. Moreover, if the auxiliary antennas of Pennanen had the same loading feature, as suggested by the Examiner, there would be no need for an antenna loading feature. Claim 4 is thus further patentably distinguished over Pennanen.

#### Allowability of Claim 5

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Regarding Claim 5, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 4, that the "... antenna loading feature is a variation in a portion of the second housing portion adjacent the antenna." As noted, there is no structure in Pennanen corresponding to an antenna loading feature. Claim 5 is thus further patentably distinguished over Pennanen.

#### Allowability of Claim 6

Regarding Claim 6, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 4, that the

... antenna loading feature is a discrete member disposed between an internal side of the second housing portion and the internal antenna when the second housing portion is mounted on the handset body.

The Examiner's contention that the element (501) of Pennanen is an antenna loading element is misplaced. The planar antenna element (501) in Pennanen is an integral part of the auxiliary antenna (500). Pennanen, col. 5, lines 20-27. Moreover, the antenna element (501) of Pennanen is disposed outside the telephone housing. Claim 6 is thus further patentably distinguished over Pennanen.

#### Allowability of Claim 7

Regarding Claim 7, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 6, that the "... the antenna loading

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feature comprises a conductive material." The Examiner's contention that the element (501) of Pennanen is an antenna loading element is misplaced. Element (501) in Pennanen is an integral portion of the auxiliary antenna. Pennanen, col. 5, lines 20-27. Moreover, the auxiliary antenna element (501) of Pennanen is disposed outside the telephone housing. Claim 7 is thus further patentably distinguished over Pennanen.

#### Allowability of Claim 8

Regarding Claim 8, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 6, wherein the "... antenna loading feature comprises a dielectric material." The antenna element (501) of Pennanen is conductive. Pennanen, col. 5, lines 20-23. Moreover, the auxiliary antenna element (501) of Pennanen is disposed outside the telephone housing. Claim 8 is thus further patentably distinguished over Pennanen.

#### Allowability of Claim 9

Regarding Claim 9, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 6, that the "... antenna loading feature comprises a recessed portion on an inner side of the second housing portion adjacent the antenna." There is no motivation of suggestion in Pennanen for the modification suggested by the Examiner, suggesting that the Examiner's rejection is based on hindsight reconstruction, a practice admonished repeatedly by the Board of Patent Appeals and Interferences. Claim 9 is thus further patentably distinguished over Pennanen.

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### Allowability of Claim 11

Regarding Claim 11, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 10, the

... first material comprising a first finish with a first antenna loading characteristic, the second material comprising a second finish with a second antenna loading characteristic different than the first antenna loading characteristic of the first finish.

The Examiner contends that the materials and loading characteristics of the auxiliary antennas (400 and 500) are different, though the Examiner argues elsewhere (in the rejection of Claims 1 & 10) that these characteristics would have been the same. In co. 5, lines 21-27, Pennanen states that the only differences between the embodiments of FIGs. 4 & 5 are the orientations of conductive elements (410 & 501) and the holes (502). Claim 11 is thus further patentably distinguished over Pennanen.

### Allowability of Claim 12

Regarding Claim 12, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 11, that the "... first and second housing portions have substantially the same external shape." In Pennanen, the auxiliary antenna (500) includes holes and the radiating member (501) is oriented differently than the auxiliary antenna embodiment of FIG. 4. Claim 11 is thus further patentably distinguished over Pennanen.

### Allowability of Claim 13

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Regarding Claim 13, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 11, wherein the "... the first finish is a metallic material applied to an exterior of the housing." Pennanen fails to disclose a housing portion with a metallic finish. The Examiner's assertion that the auxiliary antennas of Pennanen are housing is beyond the pale. Claim 13 is thus further patentably distinguished over Pennanen.

#### Allowability of Claim 14

Regarding Claim 14, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 10, that the "... antenna is an internal antenna, a first internal portion of the first housing portion adjacent the internal antenna when the first housing portion is mounted on the handset body, a second internal portion of the second housing portion adjacent the internal antenna when the second housing portion is mounted on the handset body." Claim 14 is thus further patentably distinguished over Pennanen.

#### Allowability of Claim 15

Regarding Claim 15, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 10, that the "... antenna loading feature is a variation in wall thickness of the first and second housing portions." Contrary to the Examiner's assertion, Pennanen makes no disclosure of varying antenna loading based on housing wall thickness. Claim 15 is thus further patentably distinguished over Pennanen.

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#### Allowability of Claim 16

Regarding Claim 16, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 15, that the "... antenna loading feature is a discrete member disposed between an internal side of one of the first and second housing portions and the internal antenna." Contrary to the Examiner's suggestion, Pennanen makes no disclosure of a discrete antenna loading feature. Claim 16 is thus further patentably distinguished over Pennanen.

#### Allowability of Claim 17

Regarding Claim 17, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 16, wherein the "... antenna loading feature comprises a conductive material." The Examiner's contention that the element (501) of Pennanen is an antenna loading element is misplaced. Element (501) in Pennanen is a portion of the auxiliary antenna. Pennanen, col. 5, lines 20-27. Moreover, the auxiliary antenna element (501) of Pennanen is disposed outside the telephone housing. Claim 17 is thus further patentably distinguished over Pennanen.

#### Allowability of Claim 18

Regarding Claim 18, Pennanen fails to disclose or suggest, in combination with the limitations of Claim 16, wherein the "... antenna loading feature comprises a dielectric material." The Examiner's contention that the

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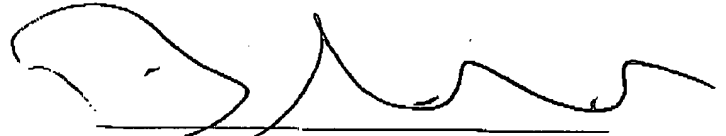
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element (501) of Pennanen is an antenna loading element is misplaced. Element (501) in Pennanen is an integral portion of the auxiliary antenna. Pennanen, col. 5, lines 20-27. Moreover, the auxiliary antenna element (501) of Pennanen is disposed outside the telephone housing. Claim 18 is thus further patentably distinguished over Pennanen.

Prayer For Relief

In view of the discussion above, kindly reverse and vacate the rejection of the Claims with instructions for the Examiner to allow said Claims to issue in a United States Patent without further delay.

Respectfully submitted,



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